

ABSTRACT OF THE DISCLOSURE

Routing mechanisms for routing data via a plurality of optical switched (OS) networks, such as optical burst-switched (OBS) networks. A plurality of OBS networks are connected to form an enterprise network, which may further include non-OBS networks such as LANs and the like. Each of the OBS networks is modeled as an autonomous system (AS), and one or more edge nodes of each OBS network are designated as external gateway protocol (EGP) routers. Each EGP router maintains a routing table identifying routes that may be used to reach destination networks. The routing table is dynamically updated via update messages that comprise an extension to the Border Gateway Protocol (BGP) and account for optical routing considerations particular to OBS networks. In response to a routing request, data is sent from an internal node using an internal routing protocol to a BGP router edge node. The BGP router edge node then determines a next network hop based on current routing information in its routing table, and the data is routed using an external routing protocol. At the same time, data is routed within an individual OBS network using an internal routing protocol under which data are sent as data bursts via reserved lightpaths.